

RA445
A338
no. B-2
1958

SERIES B2

HEALTH STATISTICS

FROM THE U.S. NATIONAL HEALTH SURVEY

preliminary report
on volume of

DENTAL CARE

United States

July-September 1957



U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE



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HEALTH STATISTICS

FROM THE U. S. NATIONAL HEALTH SURVEY

preliminary report on volume of DENTAL CARE United States July-September 1957

Statistics on dental visits, interval since last dental visit, and edentulous persons based on data collected by household interviews during July, August, and September 1957

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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Washington, D. C.

March 1958

RA 445
.A338
ser. B-2

U. S. NATIONAL HEALTH SURVEY

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The U. S. National Health Survey is a continuing program under which the Public Health Service makes studies to determine the extent of illness and disability in the population of the United States and to gather related information. It is authorized by Public Law 652, 84th Congress.

CO-OPERATION OF THE BUREAU OF THE CENSUS

Under the legislation establishing the National Health Survey, the Public Health Service is authorized to use, insofar as possible, the services or facilities of other Federal, State, or private agencies. For the national household survey the Bureau of the Census designed and selected the sample, conducted the household interviews, and processed the data in accordance with specifications established by the Public Health Service.

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EXPLANATION OF SYMBOLS

Data not available (three dashes)----- ---

Category not applicable (three dots)----- ...

Quantity is zero (1 dash)----- -

Magnitude greater than zero but is less than
one half of the unit used----- 0 or 0.0

VOLUME OF DENTAL CARE

SUMMARY

During the period July, August, and September 1957, residents of the United States visited their dentist at a rate equivalent to 1.6 visits per person per year. Persons living in urban areas visited their dentist at a rate of 1.9 visits per year, as compared with 1.2 visits per year for persons living in rural areas. About 41 percent of the dental visits made during this period involved fillings, while about 20 percent involved extractions.

As of August 1957, approximately 36 percent of the population had visited their dentist at least once within the preceding year. However, 42 percent had not been to a dentist in 3 or more years. A greater proportion of females than males had been to a dentist within the past year, 38 percent for females as compared with 34 percent for males. Thirty-nine percent of urban persons had visited the dentist within the past year as compared with 32 percent of the rural population.

There were approximately 21.6 million edentulous persons in the United States as of August 1957. This represents 13 percent of the population. The proportion of edentulous persons increases with age, with about 65 percent of persons 75 years and over being edentulous.

SOURCE OF DATA

The information contained in this report was obtained from a nationwide household interview survey conducted by the U. S. National Health Survey. The survey is continuous, each week covering a random sample of the civilian noninstitutional population of the continental United States. The data presented here are preliminary tabulations,

based on interviews obtained during the period, July 1 through September 29, 1957. During this period interviews were conducted in approximately 9,000 households spread throughout the country and covered approximately 28,500 persons.

A description of the survey design, methods used in estimation, and the general qualifications of the data is presented in Appendix I. Particular attention is called to the section entitled Reliability of Estimates. Since all estimates presented in this report are based on a sample of the population rather than on the entire population, they are subject to sampling errors and should not be considered exact figures. The sampling errors for most of the estimates presented are of relatively low magnitude. However, where an estimated number or the numerator or denominator of a rate or percentage is small, the sampling error may be high. Such estimates, therefore, must be interpreted with caution.

Definitions of certain terms used are given in Appendix II. Since some of these terms have specialized meaning in this report, it is suggested that the reader familiarize himself with these definitions.

The statistical tables relating to dental care presented in this report contain data on the volume of dental visits for the period July, August, and September 1957, classified according to the sex, age, and urban-rural residence of the patient, and according to the type of service provided. Data showing the distribution of the population according to the time interval since last dental visit classified by sex, age, and residence, and estimates of numbers of edentulous persons classified by age and residence are also given. In addition, estimates of the civilian noninstitutional population of the United States classified according to age, sex, and residence are included. The population estimates are included solely for use in rate computation and are not to be considered as official population estimates.

The data presented in this report are preliminary tabulations, based on survey data for 3 months of interviewing only. Because of the limited size of the sample covered during this period, it was not

This report was prepared by Jane W. Bergsten, of the U. S. National Health Survey staff.

DENTAL CARE	
21. (a) Last week or the week before did anyone in the family go to a dentist? Anyone else? If "Yes" (b) How many times during the past 2 weeks?	<input type="checkbox"/> Yes <input type="checkbox"/> No (skip to Q. 23) _____ No. of times
22. What did you have done? If more than one visit: What did you have done on the { first second etc. } visit?	(1) (2) (3) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Fillings <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Extractions or other surgery <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Straightening <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Treatment for gums <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Cleaning teeth <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Other (Specify) _____
If "No" to Q. 21a, ask: 23. How long has it been since you went to a dentist?	_____ Mo. or _____ Yrs. <input type="checkbox"/> Less than 1 mo. <input type="checkbox"/> Never
24. Is there anyone in the family who has lost all of his teeth?	<input type="checkbox"/> Yes <input type="checkbox"/> No

possible to produce detailed cross tabulations with any degree of precision. Therefore, the data presented here are necessarily confined to relatively broad categories and are designed to give the reader a preview of the type of information that will be available in more detailed form in future reports, after a greater volume of data has been collected.

In the household interview survey questions relating to the personal characteristics, illness and hospitalization experience, and medical and dental care were asked about each member of the sample household. The data relating to dental care were based on responses to questions from the section of the interview questionnaire shown above.

Questions pertaining to frequency of dental visits and types of services performed related to a period of 2 weeks prior to the interview. A similar recall period was used for questions on current illness and injuries and utilization of physician services. Experience on other health surveys indicates that the limitations of memory are such as to make it unfeasible to collect information of this type for a longer interval than 2 weeks. Although for each person in the sample recall of the number of dental visits made and types of services received was restricted to a 2-week period, the fact that a representative sample of the population was covered during each separate week of the 3-month period, July-September, made it possible to make estimates of the total number of dental visits during that quarter of the year.

FREQUENCY OF VISITS

Detailed tables 1 and 2 present estimates of total volume and average number of dental visits per person classified by the age and urban-rural

residence of the patient. Any visit to a dentist's office for treatment or advice was considered to be a dental visit, even if the service was not provided directly by a dentist but by a technician or dental hygienist acting under a dentist's supervision.

There were a total of 67.7 million dental visits during the 3-month period, July-September 1957. The annual rate of dental visits during this quarter was 1.6 visits per person per year. This means that if the same number of dental visits were made during each of the 4 quarters of a year as were made during the quarter, July-September 1957, an average of 1.6 dental visits per person would have been made. The following 2 points should be kept in mind when interpreting this figure.

First, although the annual rate of dental visits was calculated to be 1.6 visits per person, this does not imply that everyone visits a dentist at least once during a 1-year period. On the contrary, as will be shown later, only 36 percent of the population had visited a dentist within the past year. Thus, it appears that a relatively small proportion of the population accounts for the total volume of dental visits during a year.

The second point is that the estimate of the annual rate of 1.6 visits per person given in this report is a provisional rate based on dental visits during 1 quarter of the year. Since the number of dental visits may vary with the season, this may be an under- or an over-estimate of the actual yearly rate. Dental visits should be measured over an entire year to get a more accurate picture of the annual rate. Although this has not been done, the design of the U. S. National Health Survey is such that this information will be available after a year of data collection.

Looking at the relationship between age group and average number of dental visits per year as shown in table 2, it is found that the average number of dental visits is low for the youngest and the oldest age groups, but higher and relatively con-

stant for the ages in between. The low rates for the age groups 0-4 and 65 and over are due, at least partially, to the relatively high proportion of persons of these ages who are edentulous. The peak number of visits occurred in the 25-34 age groups where the average annual number of dental visits per person is well over 2 visits. Again, the estimates presented here apply only to the quarter, July-September 1957. It may well be that persons in different age groups tend to have different seasonal patterns in their dental visits. For example, dental visits for school-age children might tend to concentrate in the summer months, while dental visits for employed persons might be more evenly distributed throughout the year. Insofar as persons in different age groups do tend to have different seasonal patterns, estimates based on visits during 1 quarter only would not present a complete picture of the actual relationship between age and dental visits.

Comparing the urban and rural populations with respect to the average number of dental visits per person per year it may be seen that residents of urban areas have a higher rate of dental visits

than those of rural areas; 1.9 visits per person per year for urban, as compared with 1.2 visits per person per year for rural residents.

Figure 1 shows the average annual number of dental visits by age for the urban and rural populations. Age for age the urban population shows a greater average number of dental visits than the rural. Although for any one age group, the difference is not statistically significant, it is consistent for the entire age range.

Again, the seasonal factor may play some part in these relationships. It may be that persons residing in urban areas visit the dentist more frequently during the period, July-September, than those residing in rural areas. The fact that this season of the year is a popular time for vacations for urban people and a busy time for farmers, who constitute a substantial proportion of the rural population, would suggest that there might well be different seasonal patterns for dental visits among the urban and rural populations. Data from the survey for a full 12-month period will provide additional information on these points.

DENTAL VISITS BY TYPE OF SERVICE

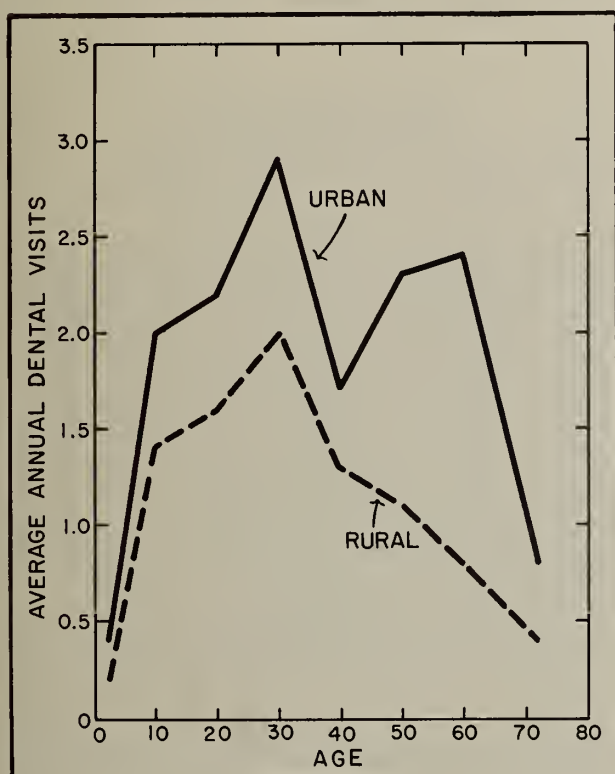


Figure 1. Average annual number of dental visits per person by residence and age.

For persons who had made dental visits during the 2 weeks prior to interviewing, the question was asked, "What did you have done on the first (second, etc.) visit?" The following categories of types of dental services were used to classify the responses: fillings, extractions, cleaning teeth, examination, denture work, straightening, gum treatment, and other. In the interview, "examination" and "denture work" were not set out as distinct categories on the questionnaire, but were included in "other." Since the interviewer was requested to write in the type of service involved whenever "other" was checked, it was possible to separate "examination" and "denture work" into distinct categories for tabulation.

If a dental visit involved more than one category of service, each category was counted. However, a particular category of service was never counted more than once for a single dental visit. Even though the respondent was given an opportunity to mention more than one type of service for each visit, only rarely was more than one reported. There was undoubtedly some tendency to report only the principal type of service received.

It may be seen in table A that fillings, which include both temporary and permanent fillings, caps, inlays, and similar services, were done in 41 percent of all visits; while extractions, which include any dental surgery or related activity such as removal of stitches, were done in 20 percent of all visits. Cleaning teeth was done in 10 percent of the visits, and denture work, including taking im-

pressions for false teeth, plate fitting or repair, and bridge work, was done in 8 percent of the visits.

Table A. Number and percent of dental visits involving specified types of services: United States, July-September 1957

Type of service	Number (in millions)	Percent
Total visits*	67.7	100
Fillings-----	27.8	41
Extractions-----	13.9	20
Cleaning-----	6.7	10
Examination-----	3.9	6
Denture work-----	5.6	8
Straightening-----	1.9	3
Gum treatment-----	1.0	1
Other and unknown---	9.8	15

*Numbers and percentages by type of service may add to more than the totals shown, since one dental visit may involve more than one type of service.

In table 3 dental visits made during the period, July-September, are classified by type of service performed and age group. The proportions of dental visits involving specified types of services vary among the different age groups. The proportion of dental visits which involved fillings was greater for persons under 45 than for persons 45 years and over. About 45 percent of the dental visits made by persons under 45 involved fillings as compared with 32 percent of the visits for persons 45 years and over. The proportion of visits involving extractions was greatest for the age group 15-44, in which about one fourth of the visits involved this type of service. The proportion of visits involving denture work was greatest for persons 45 years and over. Approximately one fifth of the dental visits made by persons in this age group involved some type of denture work. As would be expected, visits involving orthodontic work (teeth straightening) were concentrated in the under 15 age group where about 10 percent of all visits involved this type of service.

Although the proportion of visits involving a specified type of service does give some indication of the relative usage of this particular type of service it does not necessarily give an accurate measure of the actual number of separate services of each type performed. For example, the proportion of visits involving extractions was only slightly higher for persons 45 and over than it was for those under 15. However, the average number of teeth extracted per visit might well have been con-

siderably higher in the age group over 45 than it was in the group under 15. Thus, viewing services from another angle—for example, comparing the average number of teeth extracted per person or the average number of teeth extracted per visit—the differences between age groups might be found to be greater than the differences found here.

Although other, more specific measures of volume of dental services would, no doubt, yield interesting and useful statistics, the limitations of the household survey make it impractical to collect technical or detailed information on dental services, and such measures must necessarily be reserved for use in other types of surveys.

The number and percent of visits involving specified types of dental services are presented in table 4 for urban and rural residents. The distributions for the urban and rural populations show close similarity, with only the proportion of visits involving fillings differing to any marked degree between the two residence groups. Forty-three percent of visits by urban residents involved fillings as compared with 36 percent for rural. The difference exists, in spite of the fact that a greater proportion of the rural population falls into the younger age groups, where the volume of fillings, as measured by proportion of visits involving this type of service, is greatest.

TIME INTERVAL SINCE LAST DENTAL VISIT

Responses to the question, "How long has it been since you went to a dentist?" were classified into time intervals to provide a distribution of people according to the interval since last dental visit. Since the interviewing was done during the 3-month period, July-September, the point of reference in time varies from one interview to another. However, the estimates of numbers of persons by interval since the last dental visit have been adjusted to independent national estimates of the appropriate population as of August 1957, and for the purpose of interpreting the data relating to last dental visit, the intervals may be considered as extending from that date.

The civilian noninstitutional population of the United States is distributed according to interval since last dental visit by age, sex, and urban-rural residence in tables 5-8. As of August 1957, approximately 59.9 million people, or 36 percent of the population, visited their dentist at least once during the preceding year. About 70 million people, or 42 percent of the population, had not been to a dentist in 3 or more years. This includes a small percentage for whom the interval since last dental visit could not be ascertained.

Looking at the relationship between age and time interval since last dental visit, it may be seen in table B and figure 2 that the percentage of people who had visited the dentist within the past year varies among the different age groups. As would be expected, the percentage of children in the 0-4 age group who had visited the dentist in the past year is low, only 8 percent. The percentage is substantially larger, 46 percent, for the 5-14 age group, and is consistently between 40 percent and 50 percent in all other age groups through 44. In later ages the percentage of people who had visited the dentist within the last year decreases, reaching a low of 16 percent for the group over 65. The variation with age in the percentage of people who had visited the dentist within the past year is, no doubt, at least partly explained by differential need among people in the different age groups. The percentages are lowest in the age group in which the permanent teeth have not erupted, and where a substantial proportion of the people have lost all of their permanent teeth.

Table B. Percent of persons who visited a dentist within the past year according to sex and age: United States, August 1957

Age	Sex		
	Both sexes	Male	Female
All ages---	36	34	38
0-4-----	8	7	8
5-14-----	46	44	47
15-24-----	50	45	54
25-34-----	46	43	49
35-44-----	41	39	44
45-54-----	36	33	39
55-64-----	26	26	27
65+-----	16	16	15

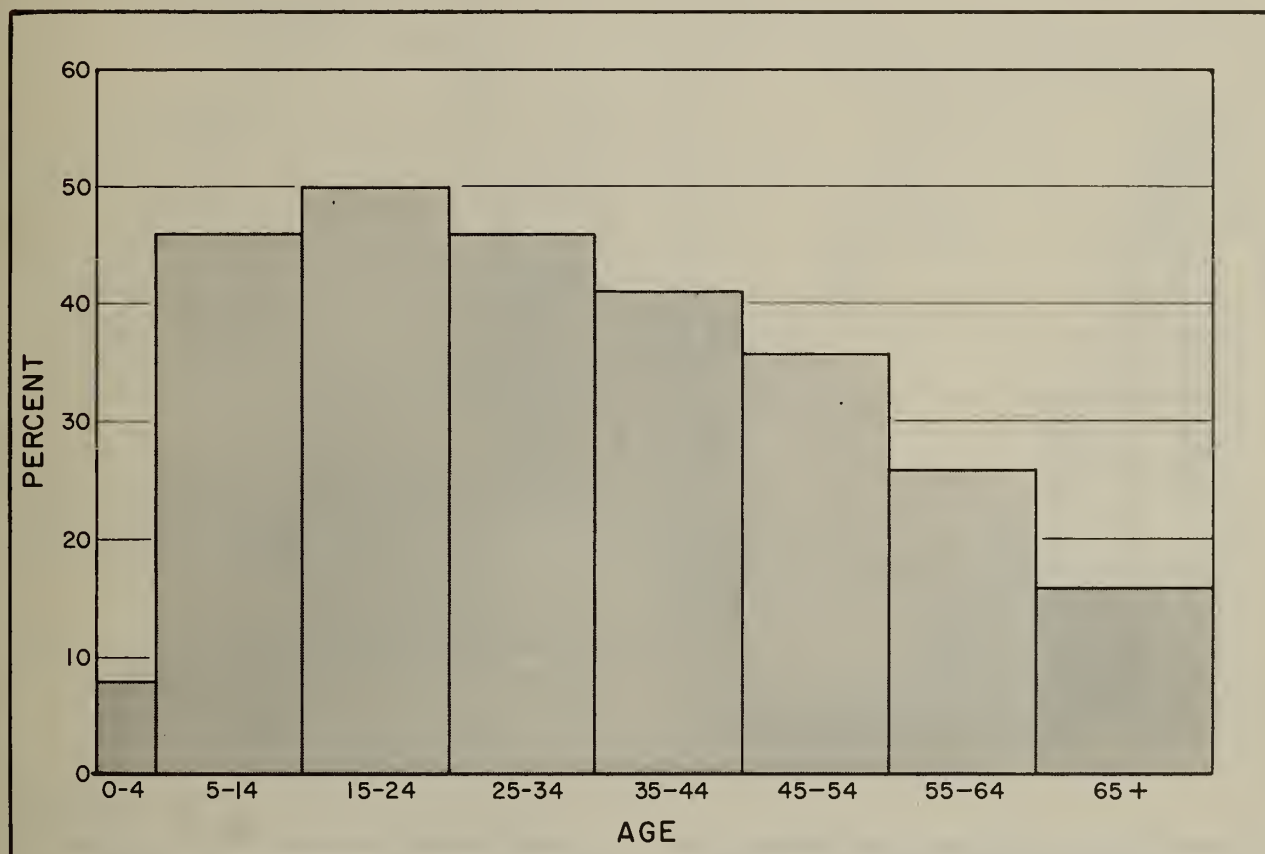


Figure 2. Percent of persons who visited a dentist within the past year according to age.

The data on interval since last dental visit may also be analyzed from the standpoint of lack of use of dental care by examining the percentage of persons who had not been to a dentist within the past 3 years. The percentage is very high for the 0-4 age group. As might be expected, about 90 percent of the children in this age group had never been to a dentist. The proportion who had not been to a dentist within 3 years then decreases with increasing age, reaching a low for the age groups 15-34. Even for these age groups, fully one fifth had not visited a dentist within the past 3 years. The proportion then rises for ages above 34 to a high of 70 percent for the group over 65.

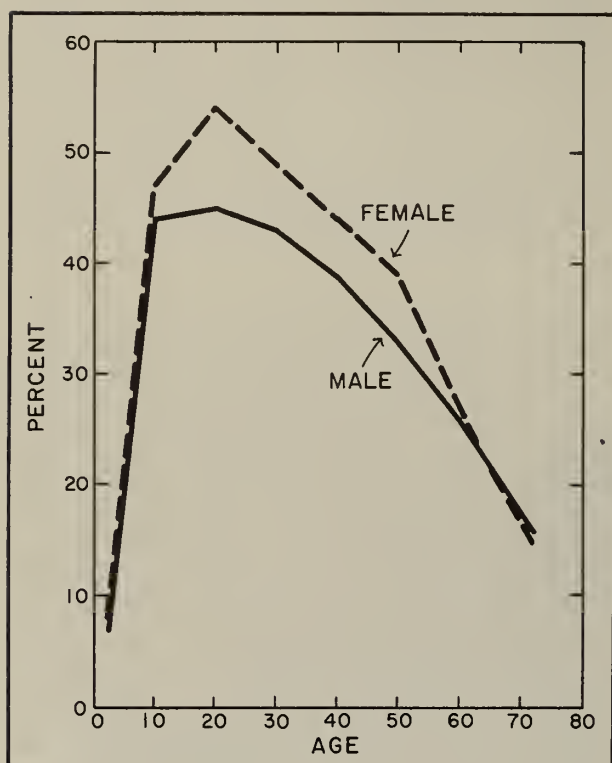


Figure 3. Percent of persons who visited a dentist within the past year by sex according to age.

When males and females are compared as to recency of dental visits, it is found that a larger percentage of females had visited the dentist within the past year, 38 percent for females, as compared with 34 percent for males. Comparing the percentage of males and females who had visited the dentist within the past year within the different

age groups, it may be seen in figure 3 and table B that the differences between the sexes are slight in the younger and older age groups, but that a substantially greater proportion of females in the middle age groups had seen a dentist recently. The large difference between males and females in the 15-54 age range seems to be described by a leveling off after age 10 in the proportion of males who had seen the dentist recently and a rise in the corresponding proportion of females. The increase for females in this age range may possibly be associated with pregnancy.

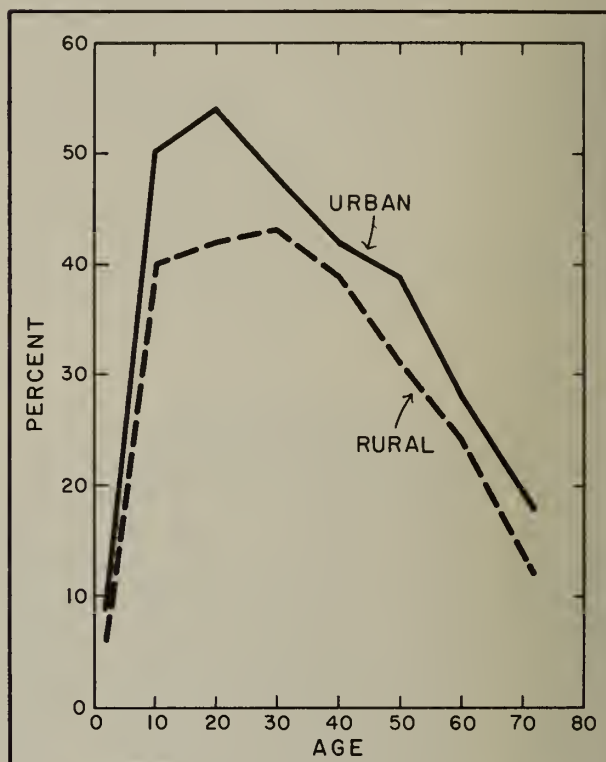


Figure 4. Percent of persons who visited a dentist within the past year by residence according to age.

Comparing the recency of dental care of people living in urban and rural areas, it is found that a greater proportion of the urban population, 39 percent, had seen a dentist within the last year, as compared with the rural population with 32 percent. As shown in figure 4 and table C, this difference exists to varying degrees in every age group, with the greatest differences occurring in the 10-30 age range.

Table C. Percent of persons who visited a dentist within the past year according to residence and age: United States, August 1957

Age	Residence		
	All areas	Urban	Rural
All ages-----	36	39	32
0-4-----	8	9	6
5-14-----	46	50	40
15-24-----	50	54	42
25-34-----	46	48	43
35-44-----	41	42	39
45-54-----	36	39	31
55-64-----	26	28	24
65+-----	16	18	12

EDENTULOUS PERSONS

From responses to the question, "Is there anyone in the family who has lost all of his teeth?", the number of edentulous persons was estimated. Persons who had lost all of their permanent teeth or who had a congenital absence of permanent teeth were classed as edentulous, regardless of whether or not the person had dentures. Estimates of edentulous persons are presented in tables 9 and 10 and text table D.

In August 1957, there were an estimated 21.6 million edentulous persons in the United States.

Table D. Percent of persons who are edentulous according to residence and age: United States, August 1957

Age	Residence		
	All areas	Urban	Rural
All ages-----	13	13	13
Under 15-----	0	0	0
15-24-----	1	1	2
25-34-----	3	3	4
Ages 35+-----	29	27	31
35-44-----	11	10	12
45-54-----	22	21	24
55-64-----	36	34	39
65-74-----	56	53	62
75+-----	65	65	67

This represents 13 percent of the entire population. Considering only those people 35 years of age and over, 29 percent were found to be edentulous. Table D shows that, as would be expected, the proportion of people who had lost all of their teeth increases with age, varying from about 1 percent of the 15-24 age group up to 36 percent of the 55-64 group, and reaching a peak of 65 percent for the group 75 years and over.

There was little or no difference in the percentage of edentulous persons in the total urban and rural populations. Thirteen percent of all urban persons and a like proportion of rural persons had lost all of their teeth. This similarity in the percentages for total populations is due to a difference in the age distributions of the urban and rural populations. Figure 5 and table D show that, age for age, the proportion of persons who had lost all of their teeth was greater for the rural than for the urban population. This difference is particularly evident over age 35.

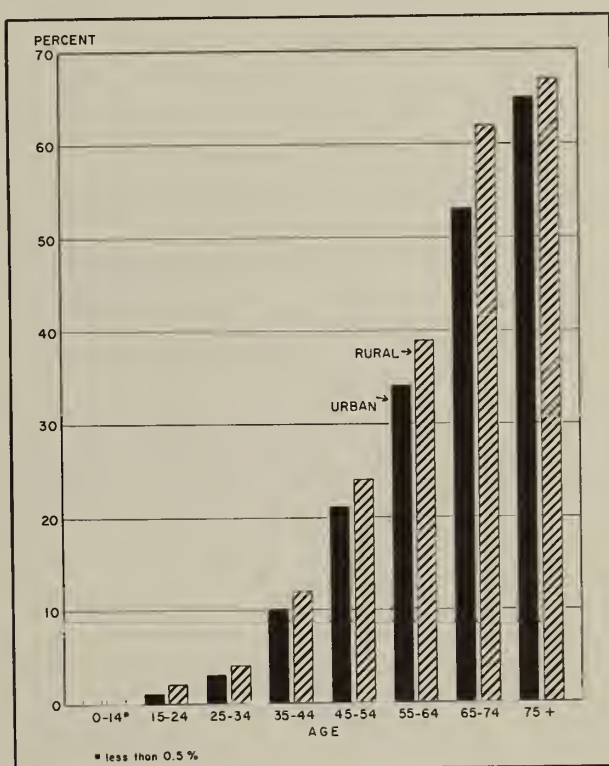


Figure 5. Percent of persons who are edentulous by residence according to age.

The estimates presented here have necessarily been confined to broad groups of the population because data for only 1 quarter are available at this time. As additional data are collected, more detailed tabulations will be possible.



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Table 1. Number of dental visits by residence and age:
United States, July-September 1957

[Data are based on household interviews during July-September 1957 and are preliminary. Data refer to the civilian noninstitutional population of continental United States. Detailed figures may not add to totals due to rounding. The survey design, general qualifications, and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II.]

Age	Residence		
	All areas	Urban	Rural
	Number of visits in millions		
All ages-----	67.7	48.0	19.8
0-4-----	1.5	1.0	0.5
5-9-----	7.1	4.5	2.6
10-14-----	7.1	4.7	2.5
15-19-----	5.5	3.4	2.1
20-24-----	4.7	3.5	1.2
25-29-----	7.4	5.0	2.4
30-34-----	7.1	4.7	2.4
35-44-----	8.9	6.0	2.9
45-54-----	9.2	7.4	1.8
55-64-----	7.0	6.0	1.0
65+-----	2.3	1.8	0.6

Table 2. Average annual number of dental visits per person by residence
and age: United States, July-September 1957

[Data are based on household interviews during July-September 1957 and are preliminary. Data refer to the civilian noninstitutional population of continental United States. Detailed figures may not add to totals due to rounding. The survey design, general qualifications, and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II.]

Age	Residence		
	All areas	Urban	Rural
All ages-----	1.6	1.9	1.2
0-4-----	0.3	0.4	0.2
5-9-----	1.6	1.8	1.3
10-14-----	1.9	2.2	1.5
15-19-----	2.0	2.1	1.8
20-24-----	2.0	2.3	1.4
25-29-----	2.7	3.1	2.2
30-34-----	2.4	2.8	1.9
35-44-----	1.6	1.7	1.3
45-54-----	1.9	2.3	1.1
55-64-----	1.9	2.4	0.8
65+-----	0.6	0.8	0.4

Table 3. Number and percent of dental visits involving specified types of services according to age: United States, July-September 1957

[Data are based on household interviews during July-September 1957 and are preliminary. Data refer to the civilian noninstitutional population of continental United States. Detailed figures may not add to totals due to rounding. The survey design, general qualifications, and information on the reliability of the estimates are given in Appendix 1. Definitions of terms are given in Appendix 11.]

Type of service	Age			
	All ages	0-14	15-44	45+
Number of visits in millions				
Total visits*-----	67.7	15.7	33.6	18.5
Fillings-----	27.8	7.1	14.7	6.0
Extractions-----	13.9	2.3	8.2	3.4
Cleaning-----	6.7	2.0	3.1	1.5
Examination-----	3.9	0.8	2.2	0.9
Denture work-----	5.6	0.2	1.4	4.0
Straightening-----	1.9	1.5	0.3	-
Gum treatment-----	1.0	0.2	0.7	-
Other and unknown-----	9.8	2.4	4.3	3.2
Percent of visits				
Total visits*-----	100.0	100.0	100.0	100.0
Fillings-----	41.0	45.3	43.7	32.4
Extractions-----	20.5	14.4	24.5	18.4
Cleaning-----	9.9	12.9	9.3	8.2
Examination-----	5.8	5.3	6.5	4.8
Denture work-----	8.2	1.4	4.2	21.4
Straightening-----	2.7	9.8	1.0	-
Gum treatment-----	1.4	1.5	2.2	-
Other and unknown-----	14.5	15.0	12.8	17.1

*Numbers and percentages by type of service may add to more than the totals shown, since one dental visit may involve more than one type of service.

Table 4. Number and percent of dental visits involving specified types of services according to residence: United States, July-September 1957

[Data are based on household interviews during July-September 1957 and are preliminary. Data refer to the civilian noninstitutional population of continental United States. Detailed figures may not add to totals due to rounding. The survey design, general qualifications, and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II.]

Type of service	Residence		
	All areas	Urban	Rural
Number of visits in millions			
Total visits*-----	67.7	48.0	19.8
Fillings-----	27.8	20.6	7.1
Extractions-----	13.9	9.5	4.4
Cleaning-----	6.7	4.7	2.0
Examination-----	3.9	2.5	1.5
Denture work-----	5.6	3.7	1.8
Straightening-----	1.9	1.5	0.4
Gum treatment-----	1.0	0.8	0.2
Other and unknown-----	9.8	6.2	3.6
Percent of visits			
Total visits*-----	100.0	100.0	100.0
Fillings-----	41.0	43.0	36.1
Extractions-----	20.5	19.8	22.3
Cleaning-----	9.9	9.7	10.2
Examination-----	5.8	5.1	7.4
Denture work-----	8.2	7.8	9.3
Straightening-----	2.7	3.1	1.9
Gum treatment-----	1.4	1.7	0.8
Other and unknown-----	14.5	13.0	18.2

*Numbers and percentages by type of service may add to more than the totals shown, since one dental visit may involve more than one type of service.

Table 5. Number of persons by time interval since last dental visit, sex, and age:
United States, August 1957

[Data are based on household interviews during July-September 1957 and are preliminary. Data refer to the civilian noninstitutional population of continental United States. Detailed figures may not add to totals due to rounding. The survey design, general qualifications, and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II.]

Sex and age	Time interval since last dental visit							
	Total persons	Less than 6 months	6-11 months	1 year	2 years	3 or 4 years	5 or more years	Never or unknown
Number of persons in millions								
<u>Both sexes</u>								
All ages-----	167.1	37.5	22.4	24.2	12.9	10.7	24.8	34.5
0-4-----	19.2	1.1	0.4	0.3	0.1	0.0	...	17.3
5-9-----	18.0	4.9	2.6	2.6	0.7	0.2	0.1	6.9
10-14-----	15.0	4.8	2.7	2.7	1.0	0.6	0.4	2.9
15-19-----	11.2	3.7	1.9	2.1	0.9	0.5	0.4	1.6
20-24-----	9.5	2.7	1.9	1.7	1.1	0.8	0.5	0.8
25-29-----	10.9	3.1	2.1	2.3	1.1	1.0	0.8	0.6
30-34-----	11.9	3.2	2.1	2.4	1.3	1.0	1.2	0.6
35-44-----	22.8	5.5	3.9	4.3	2.4	1.9	3.7	1.1
45-54-----	19.5	4.2	2.8	3.0	1.8	2.1	4.6	1.0
55-64-----	14.8	2.7	1.2	2.0	1.4	1.5	5.2	0.7
65+-----	14.4	1.5	0.7	1.0	1.0	1.1	7.9	1.1
<u>Male</u>								
All ages-----	81.2	16.8	10.6	11.8	6.4	5.3	12.0	18.2
0-4-----	9.8	0.5	0.2	0.2	0.0	0.0	...	8.8
5-9-----	9.2	2.4	1.3	1.3	0.4	0.1	0.0	3.5
10-14-----	7.6	2.3	1.4	1.5	0.5	0.3	0.2	1.5
15-19-----	5.4	1.6	0.9	0.9	0.4	0.3	0.3	0.9
20-24-----	4.2	1.0	0.7	0.7	0.5	0.4	0.2	0.5
25-29-----	5.2	1.2	0.9	1.0	0.6	0.6	0.4	0.4
30-34-----	5.7	1.4	1.0	1.1	0.7	0.4	0.7	0.3
35-44-----	11.0	2.4	1.8	2.2	1.1	0.9	1.9	0.6
45-54-----	9.5	1.8	1.4	1.5	0.9	1.1	2.3	0.6
55-64-----	7.1	1.2	0.6	1.0	0.8	0.7	2.4	0.4
65+-----	6.6	0.8	0.3	0.5	0.5	0.5	3.6	0.6
<u>Female</u>								
All ages-----	85.9	20.7	11.8	12.4	6.5	5.5	12.7	16.2
0-4-----	9.4	0.6	0.2	0.2	0.0	0.0	...	8.4
5-9-----	8.8	2.5	1.3	1.2	0.3	0.1	0.0	3.3
10-14-----	7.3	2.5	1.3	1.2	0.5	0.3	0.2	1.4
15-19-----	5.8	2.1	1.0	1.1	0.5	0.2	0.1	0.7
20-24-----	5.3	1.7	1.2	1.0	0.6	0.4	0.2	0.3
25-29-----	5.7	1.9	1.1	1.2	0.6	0.4	0.4	0.2
30-34-----	6.2	1.8	1.1	1.4	0.6	0.6	0.5	0.3
35-44-----	11.8	3.1	2.1	2.1	1.2	1.1	1.8	0.5
45-54-----	10.0	2.4	1.5	1.5	0.9	1.0	2.4	0.4
55-64-----	7.6	1.4	0.6	1.0	0.6	0.8	2.8	0.3
65+-----	7.8	0.8	0.4	0.5	0.6	0.7	4.3	0.5

Table 6. Percent distribution of persons by time interval since last dental visit according to sex and age: United States, August 1957

[Data are based on household interviews during July-September 1957 and are preliminary. Data refer to the civilian noninstitutional population of continental United States. Detailed figures may not add to totals due to rounding. The survey design, general qualifications, and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II.]

Sex and age	Time interval since last dental visit							
	Total persons	Less than 6 months	6-11 months	1 year	2 years	3 or 4 years	5 or more years	Never or unknown
<u>Both sexes</u>								
All ages-----	100.0	22.5	13.4	14.5	7.7	6.4	14.8	20.6
0-4-----	100.0	5.6	2.0	1.8	0.3	0.1	...	90.1
5-9-----	100.0	27.5	14.5	14.2	4.2	1.1	0.3	38.2
10-14-----	100.0	31.8	18.3	17.8	6.8	3.8	2.4	19.1
15-19-----	100.0	33.1	17.2	18.4	8.4	4.7	3.8	14.3
20-24-----	100.0	28.8	20.0	17.8	11.7	8.3	5.0	8.4
25-29-----	100.0	28.4	19.1	20.7	10.5	9.1	6.9	5.2
30-34-----	100.0	26.9	17.7	20.5	11.1	8.7	10.2	4.9
35-44-----	100.0	24.3	17.0	18.7	10.4	8.4	16.3	4.9
45-54-----	100.0	21.8	14.5	15.1	9.0	10.5	23.8	5.2
55-64-----	100.0	18.1	8.4	13.4	9.5	10.3	35.5	4.9
65+-----	100.0	10.7	5.1	6.9	7.3	7.8	54.8	7.5
<u>Male</u>								
All ages-----	100.0	20.7	13.1	14.5	7.9	6.5	14.8	22.5
0-4-----	100.0	5.4	2.0	1.9	0.3	0.0	...	90.5
5-9-----	100.0	26.6	14.3	14.5	4.5	1.2	0.3	38.6
10-14-----	100.0	30.0	18.5	19.5	6.9	3.4	2.5	19.2
15-19-----	100.0	30.5	16.3	17.6	7.4	5.4	5.2	17.4
20-24-----	100.0	24.6	17.7	17.3	12.8	10.2	5.8	11.6
25-29-----	100.0	23.9	18.1	19.6	11.2	12.2	7.3	7.8
30-34-----	100.0	24.9	18.4	18.5	12.0	7.4	13.0	5.8
35-44-----	100.0	22.2	16.6	19.8	10.3	8.0	17.5	5.6
45-54-----	100.0	19.0	14.3	15.7	9.5	11.2	23.8	6.5
55-64-----	100.0	17.5	8.3	13.4	10.7	10.3	33.5	6.3
65+-----	100.0	11.5	4.9	6.9	6.9	6.9	54.4	8.5
<u>Female</u>								
All ages-----	100.0	24.1	13.8	14.4	7.6	6.4	14.8	18.9
0-4-----	100.0	5.9	2.1	1.8	0.4	0.1	...	89.7
5-9-----	100.0	28.5	14.7	13.9	3.8	1.0	0.4	37.8
10-14-----	100.0	33.8	18.2	16.0	6.7	4.1	2.3	19.0
15-19-----	100.0	35.5	18.1	19.1	9.3	4.1	2.5	11.4
20-24-----	100.0	32.1	21.8	18.2	10.9	6.8	4.3	6.0
25-29-----	100.0	32.6	20.1	21.7	9.9	6.2	6.6	2.9
30-34-----	100.0	28.8	17.1	22.3	10.3	9.9	7.6	4.1
35-44-----	100.0	26.2	17.4	17.7	10.5	8.9	15.1	4.2
45-54-----	100.0	24.5	14.6	14.6	8.5	9.9	23.8	4.0
55-64-----	100.0	18.6	8.5	13.4	8.4	10.3	37.3	3.6
65+-----	100.0	10.0	5.2	6.8	7.6	8.7	55.1	6.5

Table 7. Number of persons by time interval since last dental visit, residence, and age:
United States, August 1957

[Data are based on household interviews during July-September 1957 and are preliminary. Data refer to the civilian noninstitutional population of continental United States. Detailed figures may not add to totals due to rounding. The survey design, general qualifications, and information on the reliability of the estimates are given in Appendix 1. Definitions of terms are given in Appendix 1.]

Residence and age	Time interval since last dental visit							
	Total persons	Less than 6 months	6-11 months	1 year	2 years	3 or 4 years	5 or more years	Never or unknown
Number of persons in millions								
<u>All areas</u>								
All ages-----	167.1	37.5	22.4	24.2	12.9	10.7	24.8	34.5
0-4-----	19.2	1.1	0.4	0.3	0.1	0.0	...	17.3
5-9-----	18.0	4.9	2.6	2.6	0.7	0.2	0.1	6.9
10-14-----	15.0	4.8	2.7	2.7	1.0	0.6	0.4	2.9
15-19-----	11.2	3.7	1.9	2.1	0.9	0.5	0.4	1.6
20-24-----	9.5	2.7	1.9	1.7	1.1	0.8	0.5	0.8
25-29-----	10.9	3.1	2.1	2.3	1.1	1.0	0.8	0.6
30-34-----	11.9	3.2	2.1	2.4	1.3	1.0	1.2	0.6
35-44-----	22.8	5.5	3.9	4.3	2.4	1.9	3.7	1.1
45-54-----	19.5	4.2	2.8	3.0	1.8	2.1	4.6	1.0
55-64-----	14.8	2.7	1.2	2.0	1.4	1.5	5.2	0.7
65+-----	14.4	1.5	0.7	1.0	1.0	1.1	7.9	1.1
<u>Urban</u>								
All ages-----	100.8	24.7	14.1	14.6	8.0	6.4	15.0	18.0
0-4-----	10.5	0.7	0.3	0.2	0.0	0.0	...	9.3
5-9-----	10.0	3.1	1.6	1.4	0.4	0.1	0.0	3.4
10-14-----	8.3	3.0	1.6	1.4	0.6	0.2	0.2	1.4
15-19-----	6.6	2.5	1.2	1.3	0.4	0.3	0.2	0.7
20-24-----	6.0	1.9	1.2	1.1	0.7	0.5	0.3	0.4
25-29-----	6.5	2.1	1.2	1.3	0.7	0.5	0.4	0.3
30-34-----	6.8	1.9	1.3	1.5	0.7	0.5	0.6	0.3
35-44-----	14.1	3.5	2.4	2.6	1.5	1.2	2.1	0.7
45-54-----	12.9	3.0	2.0	2.0	1.2	1.3	2.9	0.5
55-64-----	9.9	1.9	0.8	1.4	0.9	1.0	3.4	0.4
65+-----	9.1	1.2	0.5	0.6	0.7	0.7	4.9	0.5
<u>Rural</u>								
All ages-----	66.3	12.8	8.3	9.6	4.9	4.4	9.8	16.5
0-4-----	8.7	0.4	0.1	0.2	0.0	0.0	...	8.0
5-9-----	8.0	1.9	1.0	1.2	0.3	0.1	0.0	3.5
10-14-----	6.6	1.8	1.2	1.2	0.4	0.3	0.2	1.4
15-19-----	4.6	1.2	0.7	0.8	0.5	0.3	0.2	0.9
20-24-----	3.5	0.9	0.7	0.6	0.4	0.3	0.2	0.4
25-29-----	4.4	1.0	0.9	1.0	0.4	0.5	0.3	0.3
30-34-----	5.1	1.4	0.8	1.0	0.6	0.5	0.6	0.3
35-44-----	8.7	2.0	1.4	1.7	0.8	0.7	1.6	0.4
45-54-----	6.6	1.2	0.8	1.0	0.5	0.8	1.8	0.5
55-64-----	4.9	0.7	0.4	0.6	0.5	0.5	1.9	0.3
65+-----	5.3	0.4	0.3	0.4	0.4	0.4	3.0	0.5

Table 8. Percent distribution of persons by time interval since last dental visit according to residence and age: United States, August 1957

[Data are based on household interviews during July-September 1957 and are preliminary. Data refer to the civilian noninstitutional population of continental United States. Detailed figures may not add to totals due to rounding. The survey design, general qualifications, and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II.]

Residence and age	Time interval since last dental visit							
	Total persons	Less than 6 months	6-11 months	1 year	2 years	3 or 4 years	5 or more years	Never or unknown
<u>All areas</u>								
All ages-----	100.0	22.5	13.4	14.5	7.7	6.4	14.8	20.6
0-4-----	100.0	5.6	2.0	1.8	0.3	0.1	...	90.1
5-9-----	100.0	27.5	14.5	14.2	4.2	1.1	0.3	38.2
10-14-----	100.0	31.8	18.3	17.8	6.8	3.8	2.4	19.1
15-19-----	100.0	33.1	17.2	18.4	8.4	4.7	3.8	14.3
20-24-----	100.0	28.8	20.0	17.8	11.7	8.3	5.0	8.4
25-29-----	100.0	28.4	19.1	20.7	10.5	9.1	6.9	5.2
30-34-----	100.0	26.9	17.7	20.5	11.1	8.7	10.2	4.9
35-44-----	100.0	24.3	17.0	18.7	10.4	8.4	16.3	4.9
45-54-----	100.0	21.8	14.5	15.1	9.0	10.5	23.8	5.2
55-64-----	100.0	18.1	8.4	13.4	9.5	10.3	35.5	4.9
65+-----	100.0	10.7	5.1	6.9	7.3	7.8	54.8	7.5
<u>Urban</u>								
All ages-----	100.0	24.5	14.0	14.5	7.9	6.3	14.8	17.9
0-4-----	100.0	6.8	2.6	1.6	0.3	0.0	...	88.7
5-9-----	100.0	30.8	16.0	13.9	4.3	1.1	0.4	33.5
10-14-----	100.0	35.5	18.7	17.0	6.8	2.8	2.1	17.2
15-19-----	100.0	38.0	18.6	18.9	6.2	4.0	3.3	11.0
20-24-----	100.0	31.1	20.7	17.6	11.7	8.0	4.5	6.4
25-29-----	100.0	32.2	17.8	20.1	11.3	7.5	6.6	4.5
30-34-----	100.0	27.2	18.9	21.3	10.9	8.1	8.9	4.8
35-44-----	100.0	25.1	17.3	18.4	10.9	8.6	14.8	4.9
45-54-----	100.0	23.4	15.7	15.1	9.4	9.9	22.2	4.2
55-64-----	100.0	19.5	8.2	14.2	9.4	10.4	34.1	4.3
65+-----	100.0	12.7	5.1	6.9	7.6	8.1	53.5	5.9
<u>Rural</u>								
All ages-----	100.0	19.3	12.6	14.4	7.5	6.6	14.8	24.8
0-4-----	100.0	4.2	1.4	2.0	0.4	0.1	...	91.8
5-9-----	100.0	23.5	12.7	14.6	4.0	1.0	0.3	44.1
10-14-----	100.0	27.2	17.9	18.8	6.7	5.1	2.8	21.5
15-19-----	100.0	26.0	15.3	17.7	11.6	5.8	4.6	19.1
20-24-----	100.0	24.8	18.8	18.2	11.7	8.8	5.8	12.0
25-29-----	100.0	23.0	21.0	21.6	9.4	11.4	7.4	6.2
30-34-----	100.0	26.6	16.2	19.4	11.5	9.6	11.8	4.9
35-44-----	100.0	22.9	16.5	19.2	9.7	8.2	18.6	4.8
45-54-----	100.0	18.6	12.1	15.2	8.3	11.8	26.9	7.2
55-64-----	100.0	15.2	8.8	11.8	9.7	10.1	38.3	6.2
65+-----	100.0	7.3	4.9	6.8	6.6	7.4	57.0	10.0

Table 9. Number of persons who are edentulous by residence and age:
United States, August 1957

[Data are based on household interviews during July-September 1957 and are preliminary. Data refer to the civilian noninstitutional population of continental United States. Detailed figures may not add to totals due to rounding. The survey design, general qualifications, and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II.]

Age	Residence		
	All areas	Urban	Rural
Number of persons in millions			
All ages-----	21.6	13.2	8.4
Under 15-----	0.0	0.0	0.0
15-24-----	0.3	0.1	0.1
25-34-----	0.8	0.4	0.4
35-44-----	2.4	1.4	1.0
45-54-----	4.3	2.7	1.6
55-64-----	5.3	3.4	1.9
65-74-----	5.4	3.3	2.1
75+-----	3.2	1.9	1.3

Table 10. Percent distribution of persons who are edentulous according
to residence and age: United States, August 1957

[Data are based on household interviews during July-September 1957 and are preliminary. Data refer to the civilian noninstitutional population of continental United States. Detailed figures may not add to totals due to rounding. The survey design, general qualifications, and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II.]

Age	Residence		
	All areas	Urban	Rural
All ages-----	100.0	100.0	100.0
Under 15-----	0.1	0.2	0.1
15-24-----	1.2	1.0	1.5
25-34-----	3.7	3.2	4.3
35-44-----	11.2	10.4	12.4
45-54-----	19.8	20.3	19.0
55-64-----	24.5	25.9	22.4
65-74-----	24.9	24.7	25.2
75+-----	14.6	14.3	15.1

Table 11. Population used in obtaining the rates shown in this publication by residence, sex, and age: United States, August 1957

[Data are based on household interviews during July-September 1957 and are preliminary. Data refer to the civilian noninstitutional population of continental United States. Detailed figures may not add to totals due to rounding. The survey design, general qualifications, and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II.]

Sex and age	Residence		
	All areas	Urban	Rural
Number of persons in millions			
<u>Both sexes</u>			
All ages-----	167.1	100.8	66.3
0-4-----	19.2	10.5	8.7
5-9-----	18.0	10.0	8.0
10-14-----	15.0	8.3	6.6
15-19-----	11.2	6.6	4.6
20-24-----	9.5	6.0	3.5
25-29-----	10.9	6.5	4.4
30-34-----	11.9	6.8	5.1
35-44-----	22.8	14.1	8.7
45-54-----	19.5	12.9	6.6
55-64-----	14.8	9.9	4.9
65-74-----	9.6	6.2	3.4
75+-----	4.8	2.9	1.9
<u>Male</u>			
All ages-----	81.2	47.7	33.5
0-4-----	9.8	5.2	4.6
5-9-----	9.2	4.9	4.3
10-14-----	7.6	4.2	3.5
15-19-----	5.4	3.1	2.3
20-24-----	4.2	2.7	1.5
25-29-----	5.2	3.0	2.2
30-34-----	5.7	3.3	2.4
35-44-----	11.0	6.5	4.5
45-54-----	9.5	6.2	3.3
55-64-----	7.1	4.7	2.4
65-74-----	4.5	2.7	1.8
75+-----	2.1	1.2	0.9
<u>Female</u>			
All ages-----	85.9	53.1	32.8
0-4-----	9.4	5.3	4.1
5-9-----	8.8	5.1	3.7
10-14-----	7.3	4.2	3.2
15-19-----	5.8	3.5	2.3
20-24-----	5.3	3.3	2.0
25-29-----	5.7	3.5	2.2
30-34-----	6.2	3.5	2.7
35-44-----	11.8	7.6	4.2
45-54-----	10.0	6.7	3.3
55-64-----	7.6	5.2	2.4
65-74-----	5.1	3.5	1.6
75+-----	2.7	1.7	1.0

NOTE: The detailed data appearing in this table were derived from the sample of the National Health Survey, and are intended for computation of rates in connection with health data given in this report. They may differ from official estimates of the Bureau of the Census. For estimates of urban and rural population by age and sex for more general use, see Bureau of the Census reports on the civilian population of the United States by type of residence, in Current Population Reports: Series P-20.

APPENDIX I

TECHNICAL NOTES ON METHODS

Background of This Report

This Preliminary Report on Volume of Dental Care is one of a series of statistical reports which cover separate health-related topics prepared by the U. S. National Health Survey. The report is based on information collected in the nationwide continuing sample household interview survey which is a main aspect of the program.

The household interview survey uses a questionnaire which, in addition to personal and demographic characteristics, solicits information on chronic and acute conditions, accidents, medical care, dental care, and hospitalization. As interview data relating to each of these various broad subject areas is tabulated and analyzed, separate reports are to be issued covering one or more specific topics. In the interest of prompt publication, some of these reports are provisional or abbreviated. However, the continuous character of the household survey permits the collection of data for different periods of the year and the gradual accumulation of data sufficient to permit progressively more detailed classification and tabulation. For this reason preliminary reports may be superseded when a larger accumulation of data and a need for more detailed information indicate amplification. For example, the present report, based as it is on data from a single calendar quarter, does not permit the detail—in terms of tabulations involving demographic, social, economic, or health variables—which could be extracted from data accumulated for a number of quarters.

Data for Present Report

The present report is based on the consolidated sample for 13 weeks of interviewing ending September 29, 1957. In accordance with the explanation of the following section, the data yielded are treated in analysis as incidence and prevalence figures for the third calendar quarter of the year.

The population covered by the sample for the household interview survey is the civilian population of the continental United States living at the time of interview. Although the sample collection covers persons living as inmates of resident-type institutions, data for these persons are not included in the figures given in these reports pending special study of the applicability of the interview-type questionnaire to these persons. The sample does not include members of the Armed Forces, United States nationals living in foreign countries, and crews of vessels. It should also be noted that the data presented do not comprise a complete inventory of medical or dental conditions existing or services received for any specified calendar period since no adjustment has been made for persons dying during the period covered by the report.

Statistical Design of the Household Interview Survey

General plan. The sampling plan of the survey follows a multistage probability design which permits a continuous sampling of the civilian population of the United States. The first stage of this design consists of an area sample of 372 from among approximately 1,900 geographically defined Primary Sampling Units (PSU's) into which the continental United States has been divided. A PSU is a county, a group of contiguous counties, or a Standard Metropolitan Area.

With no loss in general understanding, the remaining stages can be telescoped and treated in this discussion as an ultimate stage. Within PSU's then, ultimate stage units called segments are defined, also geographically, in such a manner that each segment contains an expected six households in the sample. Each week a random sample of about 120 segments is drawn. In the approximately 700 households in those segments persons are interviewed concerning illnesses, injuries, chronic conditions, disability, and other factors related to health.

The household members interviewed each week are an independent representative sample of the population so that samples for successive weeks can be combined into larger samples for, say, a calendar quarter, or a year. Thus the design permits both continuous measurement of characteristics of high incidence or prevalence in the population, and through the larger consolidated samples more detailed analysis of less common characteristics and smaller categories. The continuous collection has administrative and operational advantages, as well as technical assets, since it permits field work to be handled with an experienced, stable staff.

Sample size and geographic detail. The national sample plan over a 12-month period includes approximately 115,000 persons from 36,000 households in 6,000 segments, with representation from every State. The overall sample was designed in such a fashion that from the annual sample tabulations can be provided for various geographic sections of the United States and for urban and rural sectors of the Nation.

Collection of data. The field operations for the household survey are performed by the Bureau of the Census under general specifications established by the Public Health Service. In accordance with these specifications the Bureau of the Census designs and selects the sample, conducts the field interviewing acting as collecting agent for the Public Health Service, and edits and codes the questionnaires. Tabulations and most of the editing are handled on the Bureau of the Census electronic computers. Final tables and published reports are planned and prepared by the Public Health Service.

Estimating methods. Each statistic produced by the Survey—for example, the number of persons with one or more bed days of disability in a specified period—is the result of two stages of ratio estimation. In the first of these, the ratio factor is 1950 decennial population count to estimated population for 1950 for the U. S. National Health Survey first-stage sample of PSU's. These factors are applied for 132 color-residence classes.

Later, ratios of sample-produced estimates of the population to official Bureau of the Census figures for current population in 76 age-sex-color classes are computed, and serve as second-stage factors for ratio estimating.

The effect of the ratio estimating process is to make the sample more closely representative of the population by age, sex, color, and residence, thus reducing sampling variance.

As noted, each week's sample represents the population living during that week and characteristics of that population. Consolidation of samples over a time period, say a calendar quarter, produces estimates of average characteristics of the United States population for that calendar quarter.

For prevalence statistics, such as number of persons with impairments, or number of persons classified by interval since last medical visit, figures presented for a designated calendar quarter are averages of estimates for all weeks of interviewing in that quarter.

For other types of statistics—namely those measuring the number of occurrences during a specified time period—such as number of visits to a doctor, a dentist, or incidence of new illnesses, a similar computational procedure is used, but the statistics have a different interpretation. For many of these items, the questionnaire asks for the respondent's experience over the two calendar weeks prior to week of interview. In such instances, unless a contrary indication is given in the text, the estimate of quarterly total for the statistic is simply $6\frac{1}{2}$ times the average two-week estimate produced by the 13 successive samples taken during the quarter. Thus the experience of persons interviewed during the quarter—experience which actually occurred for each person in a two-calendar week interval prior to week of interview—usually is treated in analysis as though it measured the total of such experience occurring in the quarter. For most statistics, such interpretation leads to no significant bias.

In many instances, rates for a quarter are converted to an annual basis, in accordance with usual convention, in order to facilitate comparison of rates for time periods of different lengths. It must be remembered that any attempt to interpret such a converted figure as a true annual rate is subject to potential seasonal bias.

General Qualifications

Nonresponse. Data were adjusted for nonresponse by a procedure which imputed to persons in a household not interviewed the characteristics of interviewed persons in the same segment. The total noninterview rate was 7 percent; 1 percent was refusal, and the remainder was accounted for by all other reasons, such as failure to find any household respondent after repeated trials.

The interview process. The statistics presented in this report are based on the replies secured in interview of persons in households. Each person 18 years and over, available at the time of interview, was interviewed individually. Proxy respondents within the household were employed for children and for adults not available at the time of the interview provided the respondent was related to the person about whom information was being obtained.

There are limitations to the accuracy of diagnostic and other information collected in household interviews. For diagnostic information the household respondent, can, at best, pass on to the interviewer only the information the physician has given to the family. For conditions not medically attended, diagnostic information is often no more than a description of symptoms. However, other types of facts such as those concerning the circumstances and consequences of illness or injury and the resulting action taken or sought by the individual, can be obtained more accurately from household members than from any other source since only the persons concerned are in a position to report all of this type of information.

Rounding of numbers. Counts in the basic tabulations are made to the nearest whole person or illness, although they are not accurate to that detail. Published aggregates are rounded to a level which seems both to be utilitarian in analysis and meaningful from the sampling point of view. Rates and totals are calculated from worksheet numbers before rounding, and therefore may not always appear to be exactly consistent with published rounded components.

Population figures. Some of the published tables include population figures for specified categories. Except for certain overall totals by age, sex, and color (which are independently estimated), these figures are based on the sample of households in the U. S. National Health Survey. They are given primarily for the purpose of providing denominators for rate computation, and for this purpose are more appropriate for use with the accompanying measures of health characteristics than other population data that may be available. In some instances they will permit users to recombine published data into classes more suitable to their specific needs. With the exception of the overall totals by age, sex, and color mentioned above, the population figures may in some cases differ from corresponding figures (which are derived from different sample surveys) published in reports of the Bureau of the Census. For population data for general use, see the official estimates presented in Bureau of the Census reports in the P-20, P-25, P-50, P-57, and P-60 series.

Reliability of estimates. Since the estimates are based on a sample, they will differ somewhat from the figures that would have been obtained if a complete census had been taken using the same schedules, instructions, and interviewing personnel and procedures. As in any survey, the results are also subject to measurement error.

The standard error is primarily a measure of sampling variability, that is, the variations that might occur by chance because only a sample of the population is surveyed. As calculated for this report, the standard error also reflects part of the variation which arises in the measurement process. It does not include estimates of any biases which might lie in the data. The chances are about 68 out of 100 that an estimate

from the sample would differ from a complete census by less than the standard error. The chances are about 95 out of 100 that the difference would be less than twice the standard error and about 99 out of 100 that it would be less than 2½ times as large.

The illustration below is presented to give standard errors of some of the more important characteristics and an interpretation of the standard errors.

The reliability of an estimated rate or percentage, computed by using sample data for both numerator and denominator, depends upon both the size of the rate and the size of the total upon which the rate is based. Estimated rates are relatively more reliable than the corresponding absolute estimates of the numerator of the rate, particularly if the rate is high.

As more data become available, it will be possible to give general guides and rules of thumb which will permit determination of approximate sampling reliability of figures in these reports.

Illustration. An estimated 59,976,000 persons last visited a dentist within a one-year period. The chances are about 68 out of 100 that the difference between the estimate and the figure which would have been obtained from a complete census is less than 1,979,000, the standard error of the estimate. An estimated 21,569,000 persons have lost all their teeth. The chances are about 68 out of 100 that the difference between the estimate and the figure which would have been obtained from a complete census is less than 626,000, the standard error of the estimate.

APPENDIX II

DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT

The following are definitions of certain terms used in this report which have a specialized meaning in the U. S. National Health Survey.

Dental Care Terms

Dental visits.—Each visit to a dentist's office for treatment or advice is considered to be a dental visit. The visit may involve services provided directly by the dentist or by a technician or a dental hygienist acting under a dentist's supervision. Services provided while a person was a patient in a hospital for overnight or longer are not considered to be dental visits.

Interval since last dental visit.—The interval since the last dental visit is the length of time prior to the week of interview since a dentist or dental hygienist was last visited for treatment or advice of any type whatsoever.

The interval is recorded to the nearest month for periods of a month or more but less than a year, and to the nearest year for periods of a year or more.

Estimates of numbers of persons by interval since the last dental visit based on the interviewing done in any calendar quarter are adjusted to independent national estimates of the population as of the second month in the calendar quarter. Consequently, the estimates of numbers of persons relate to the characteristics of the population as of that date.

Type of dental service.—A dental service is a service received when a dentist or dental hygienist is visited. For the purposes of this survey, dental services have been categorized into a number of different types of dental services. If a single dental visit involves more than one type of dental service, each type of service is recorded. If a particular type of service is rendered more than once during a single visit, the type of service is nevertheless recorded only once. For example, if during a single dental visit, one tooth is extracted and three teeth are filled, the types of services rendered during that visit are recorded as "Extractions" and "Fillings," each category being recorded only once. The categories of types of dental services

are defined as follows:

1. Fillings include temporary fillings, permanent fillings, caps, inlays, crowns, and similar procedures.
2. Extractions include any dental surgery and related activity such as removal of stitches.
3. Cleaning teeth includes all forms of prophylaxis.
4. Examination includes checkup, consultation, and X-rays.
5. Denture work includes taking impressions for false teeth, plate fitting or repair, and bridge work.
6. Straightening includes orthodontic treatment and brace work and also fitting or repair of braces.
7. Gum treatment includes all periodontal work, except prophylaxis.
8. Other includes all types of dental service not listed above.

Edentulous persons.—Persons who have lost all of their permanent teeth or who have a congenital absence of permanent teeth are classed as edentulous persons. An edentulous person may have dentures but does not have any natural teeth.

Location of Residence Terms

Urban and rural residence.—The definition of urban and rural areas used in the U. S. National Health Survey is the same as that used in the 1950 Census. According to this definition, the urban population comprises all persons living in (a) places of 2,500 inhabitants or more incorporated as cities, boroughs, and villages; (b) incorporated town of 2,500 inhabitants or more except in New England, New York, and Wisconsin, where "Towns" are simply minor civil divisions of counties; (c) the densely settled urban fringe, including both incorporated and unincorporated areas, around cities of 50,000 or more; and (d) unincorporated places of 2,500 inhabitants or more outside any urban fringe. The remaining population is classified as rural.



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Library of Congress has advanced-catalogued
publication as follows:

U. S. National Health Survey.

Preliminary report on volume of dental care, United States, July-September 1957; statistics on dental visits, interval since last dental visit, and edentulous persons based on data collected by household interviews during July, August, and September 1957. Washington, U. S. Dept. of Health, Education, and Welfare, Public Health Service, Division of Public Health Methods, 1958.

22 p. diagrs., tables. 27 cm. (*Its Health statistics, ser. B2*)

[U. S.] Public Health Service. Publication no. 584-B2.

1. Dentistry—U. S.—Stat. 2. U. S.—Statistics, Medical. 1. Title:
Dental care, United States, July-September 1957. (Series. Series:
U. S. Public Health Service. Publication no. 584-B2)

RA11.B15475

ser. B2

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Public Health Service Publication No. 584-B2

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